

CLAIMS

1. A method of distributing testing materials comprising the acts of:
 - storing a first version of a test package in a data store;
 - establishing a communication link with a test center via a wide-area network;
 - detecting, via said communication link, that a second version of said test package installed at said test center is outdated relative to said first version of said test package; and
 - transmitting said first version of said test package to said test center via said network.

2. The method of claim 1, wherein said establishing act comprises establishing said communication link via the Internet.

3. The method of claim 1, wherein said storing act comprises storing said first version of said test package in a database.

4. The method of claim 1, wherein said establishing act comprises using a Java Enterprise service to engage in communication with said test center.

5. The method of claim 4, wherein said Java Enterprise service is one of ThinWEB servlet or JRUN V3.0.

6. The method of claim 1, wherein said detecting act comprises:

- receiving a test center record indicative of test packages installed at said test center, said test center record indicating the presence or absence of one or more versions of said test package at said test center;

- determining, based on said test center record, that said first version of said test package is not installed at said test center.

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7. The method of claim 6, further comprising the act of:

prior to said transmitting act, determining, according to a criterion, that said first version of said test package may be installed at said test center.

5 8. The method of claim 7, wherein said act of determining that said first version of said test package may be installed at said test center comprises the act of using an isVersionAllowed function which checks a version of software installed at said test center to determine whether an installation may proceed.

10 9. The method of claim 1, further comprising the act of:

 updating a test center record at said test center to reflect installation of said first version of said test package at said test center.

15 10. The method of claim 1, wherein said transmitting act comprises:

 packaging said test package in one or more data structures according to a first protocol; and

 sending said one or more data structures to said test center via said wide-area network using a transport protocol different from said first protocol.

20 11. The method of claim 10, wherein said transport protocol comprises Hypertext Transport Protocol.

25 12. A method of operating a testing center comprising the acts of:

 establishing, via a wide-area network, a communication link with a first server remote from said testing center;

 transmitting, to said first server via said communication link, first information indicative of a version of testing materials installed at said testing center;

30 30 receiving, from said first server via said communication link, first testing materials comprising one or more test questions; and

electronically delivering said test questions to an examinee at said testing center.

13. The method of claim 12, wherein said establishing act comprises
5 establishing said communication link via the Internet.

14. The method of claim 12, wherein said establishing act comprises using a Java Enterprise service to engage in communication with said first server.

10 15. The method of claim 14, wherein said Java Enterprise service is one of ThinWEB servlet or JRUN V3.0.

15 16. The method of claim 12, wherein said transmitting act comprises transmitting a test center record indicative of a status of said testing center, said status including an identity of testing materials installed at said testing center.

17. The method of claim 12, further comprising the act of:
transmitting, to said first server, property information indicative of software installed at said testing center.

20 18. The method of claim 12, further comprising the acts of:
receiving, via said wide-area network, using a transport protocol and at least one other protocol that packages information according to said transport protocol, data indicative of said test center installation status; and
25 storing said information at said test center.

19. The method of claim 12, wherein said transmitting act comprises:
packaging said first information in one or more data structures according to a first protocol; and
30 sending said one or more data structures to said first server via said wide-area network using a transport protocol different from said first protocol.

20. The method of claim 19, wherein said transport protocol comprises Hypertext Transport Protocol.

5 21. A system for computer-based testing comprising:
a test-delivery management module which receives testing materials via a wide-area network, said test-delivery management module having a database which stores the received testing materials, said test-delivery management module further hosting first client-server logic which retrieves the testing materials
10 from said database; and

15 a testing-station module which receives the testing materials from said test-delivery management module in a manner controlled by said first client-server logic, said testing-station module having a user interface which presents the testing materials to a candidate in a manner controlled by said first client-server logic.

22. The system of claim 21, wherein said first client-server logic comprises Java.

20 23. The system of claim 21, wherein said test-delivery management module uses a protocol engine which implements a test-servicing protocol to receive said testing materials via said wide-area network, said protocol engine being installable on a computing device at a test servicing center with which said test-delivery management system communicates via said wide-area network, the protocol engine being adapted to communicate between the test servicing center and said test-delivery management module, said protocol engine comprising:
25 a service module which generates service data that provides a service to a testing center at which said test-delivery management module operates;

30 a service authorization module which is communicatively coupled to said service module, which receives the service data, and which engages in an authorization inquiry with the test-delivery management module to determine

whether said test servicing center may perform said service for said testing center, and which forward said service data to said testing center according to a result of said authorization inquiry;

an encryption module which is communicatively coupled to said
5 service authorization module, which receives data from said service authorization module, and which encrypts said data; and

an authentication module which receives encrypted data from
said encryption module and which engages in an authentication protocol with said
testing center prior to forwarding said encrypted data to said testing center, said
10 authentication module forwarding said encrypted data using a transport protocol
different from the test servicing protocol.

24. A protocol engine which implements a test servicing protocol, the
protocol engine being installable on a computing device at a test servicing center, the
15 protocol engine being adapted to facilitate communication between the test servicing
center and a testing center, the protocol engine comprising:

a service module which generates service data that provides a
service to the testing center;

a service authorization module which is communicatively
20 coupled to said service module, which receives the service data, and which engages in
an authorization inquiry with the testing center to determine whether said test service
center may perform said service for said testing center, and which forward said
service data to the testing center according to a result of said authorization inquiry;

an encryption module which is communicatively coupled to said
25 service authorization module, which receives data from said service authorization
module, and which encrypts said data; and

an authentication module which receives encrypted data from
said encryption module and which engages in an authentication protocol with said
testing center prior to forwarding said encrypted data to said testing center, said
30 authentication module forwarding said encrypted data using a transport protocol
different from the test servicing protocol.

25. The protocol engine of claim 24, wherein said transport protocol comprises Hypertext Transport Protocol or Secure Hypertext Transport Protocol.

5 26. The protocol engine of claim 24, wherein said authentication protocol comprises a challenge-response protocol.

27. The protocol engine of claim 24, wherein said service comprises provision of testing materials to the testing center.

10 28. The protocol engine of claim 27, wherein said authorization inquiry determines whether the testing center is authorized to receive said testing materials.

15 29. The protocol engine of claim 24, wherein said service comprises provision of an updated version of a test to the testing center, the testing center previously storing an outdated version of the test.

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